Name: Date: Period:

**Environmental Issues**

Environmental science – study of natural \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the environment

and how \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ affect them

People & Events within Environmental Science:

* John Muir – nature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that led to the establishment of

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ National Park

* Theodore (Teddy) Roosevelt – established 1st \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ for protection of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* Gifford Pinchot – 1st director of U.S. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Manage forests \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to meet current and future

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ needs

* Aldo Leopold – wrote \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

which is a book that links wildlife \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* Rachel Carson – wrote \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ which is a book

that describes the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ effects of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ on the

environment

3 Environmental Issues Categories:

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ = depletion of \_\_\_\_\_\_\_\_ materials
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ = organism \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ exceed carrying \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ = introduction of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ into the

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and/or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Types of Resources:

* Renewable resources – resource \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ by natural \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in a

short period of \_\_\_\_\_\_\_\_\_\_\_\_\_

* + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Nonrenewable resources -- resource that cannot be\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_ or

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ on a scale comparative to its \_\_\_\_\_\_\_\_\_\_

* + \_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Trash Facts:

* 5 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ tons per year; 4 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ per day
* Solid waste – anything humans \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Agricultural -- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ leftovers
  + Mining – rock, \_\_\_\_\_\_\_\_\_\_\_\_, sand
  + Industrial – scrap \_\_\_\_\_\_\_\_\_\_\_\_\_\_, plastic, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, sewage, ash
  + Municipal – homes, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, hospitals, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Hazardous – flammable, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, unstable, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Where does it go?
  + Landfills -- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in ground lined with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or

plastic then filled with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* + Burn it – with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    - Problems – air \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_; \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ash
  + Recycle
    - Advantages – saves \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, decreases amount in

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, decreases \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, protects

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* + - Disadvantages – not \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, poor

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ products, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, still

causes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3 Causes of Overpopulation:

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ warming – \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in Earth’s surface air

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* 1. Greenhouse effect – \_\_\_\_\_\_\_\_\_\_\_\_\_ in atmosphere trap Sun’s \_\_\_\_\_\_\_\_\_\_\_

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ destruction; \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Introduction of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ species

Negative Effects of Pollution:

1. Disturbs \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and its \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Global \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ rain, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ land,

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ layer depletion, erosion

1. Destroys \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ systems

Resource overuse, overpopulation, and pollution ALL cause loss of **BIODIVERSITY**

* Biodiversity -- \_\_\_\_\_\_\_\_\_\_\_\_\_\_ of \_\_\_\_\_\_\_\_\_\_ on Earth
  + When lost, species can become \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, or

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

* + 1. Threatened species – in danger of becoming \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    2. Endangered species – in danger of becoming \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    3. Extinct species – species are \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Exploitation – benefiting from the use of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (\_\_\_\_\_\_\_\_\_\_\_)

Values of Biodiversity:

1. ecosystem \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -- keeps \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in nature
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -- anti-venom and vaccines
3. agricultural -- \_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_
4. aesthetic -- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_ at
5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -- manufactured \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What can we do?

* Conservation -- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of resources
* Preservation -- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from danger

Human footprint – ecological \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ life on Earth

Name: Date: Period:

**Environmental Issues KEY**

Environmental science – study of natural processes in the environment and how humans affect them

People & Events within Environmental Science:

* John Muir – nature writer that led to the establishment of Yosemite National Park
* Theodore (Teddy) Roosevelt – established 1st National Wildlife Refuge for protection of the brown pelican
* Gifford Pinchot – 1st director of U.S. Forest Service
  + Manage forests sustainably to meet current and future lumber needs
* Aldo Leopold – wrote A Sand County Almanac which is a book that links wildlife management to ecology
* Rachel Carson – wrote Silent Spring which is a book that describes the harmful effects of pesticides on the environment

3 Environmental Issues Categories:

1. Overuse of resources = depletion of raw materials
2. Overpopulation = organism numbers exceed carrying capacity
3. Pollution = introduction of contaminants into the environment
   1. air, water, soil, radioactive, heat, light, and/or noise

Types of Resources

* Renewable resources – resource replaced by natural processes in a short period of time
  + Solar, wind, hydro, and/or geothermal
* Nonrenewable resources -- resource that cannot be re-grown, remade or regenerated on a scale comparative to its use(consumption)
  + Coal, oil, natural gas

Trash Facts:

* 5 billion tons per year; 4 pounds per day
* solid waste – anything humans throw away
  + Agricultural -- manure and crop leftovers
  + Mining – rock, dirt, sand
  + Industrial – scrap metals, plastic, paper, sewage, ash
  + Municipal – homes, schools, hospitals, businesses
  + Hazardous – flammable, corrosive, unstable, radioactive
* Where does it go?
  + Landfills -- holes in ground lined with clay or plastic then filled with trash
  + Burn it – with incinerators
    - Problems – air pollution; toxic ash
  + Recycle
    - Advantages – saves energy, decreases amount in landfills, decreases pollution, protects environment
    - Disadvantages – not widespread, poor quality products, expensive, still causes pollution

3 Causes of Overpopulation:

1. Global warming – increase in Earth’s surface air temperature
   1. Greenhouse effect – gases in atmosphere trap energy from the sun
2. Habitat destruction; forestry and agricultural (farming)
3. Introduction of non-native (exotic) species

Negative Effects of Pollution:

1. Disturbs ecosystems and its balance
2. Global warming, acid rain, infertile land, ozone layer depletion, erosion
3. Destroys body systems

Resource overuse, overpopulation, and pollution ALL cause loss of **BIODIVERSITY**

* Biodiversity -- variety of life on Earth
  + When lost, species can become threatened, endangered, or extinct.
    1. Threatened species – in danger of becoming endangered
    2. Endangered species – in danger of becoming threatened
    3. Extinct species – species are gone forever
  + Exploitation – benefiting from the use of resources (poaching)

Values of Biodiversity:

1. ecosystem stability -- keeps balance in nature
2. medicines -- anti-venom and vaccines
3. agricultural – food, soil
4. aesthetic -- pleasing to look at
5. industrial -- manufactured products

What can we do?

* Conservation – management of resources
* Preservation -- protection from danger

Human footprint – ecological impact of humans’ life on Earth